REVIEWS

THE ORIGIN OF RACES. By Carleton S. Coon. London: Jonathan Cape. 1963. 63s.

Dr Coon's recently published monograph is the first of a pair in which are embodied the results of studies of human origins and variability collected during the twenty years following the publication in 1939 of his well known revision of "The Races of Europe". The author's purpose is "... to trace the descent of the living races of *Homo sapiens*" (Australoid, Mongoloid, Caucasoid, Congoid and Capoid)—in this volume unequivocally designated subspecies—back in geological time "... to ancestral fossil races, derived in turn from one or more prototypes in the extinct species *Homo erectus* . . .".

The basis for this synthesis is a summary account of virtually all known fossil remains of *Homo* and of such fossil Primates (e.g. *Proconsul*, *Oreopithecus* and the Australopithecinae) as are often acclaimed as being of special significance in the phases preceding the emergence of the genus *Homo*. The result is a compendium of information extending over almost 500 pages and unique in present-day anthropological writings in that, while not purporting to give detailed descriptions of all fossil types or comprehensive lists of studies that have been made of each, it provides a panorama of knowledge of fossil man into which detailed information can be readily fitted.

Dr Coon's survey of fossil remains is preceded by an introductory section containing a summary of conventional views on the mechanisms responsible for promoting evolutionary change, on the concept of the species and subspecies and on their origins. This leads to a discussion of some of the natural selective forces acting upon human populations and of the probable adaptive significance of certain of man's physical features. Included with this are lucid summaries of the geographical, climatic and other barriers that exist between the major living human groups.

The novel selective forces resulting from man's capacity for conceptual thought and from his peculiar social systems receive a full treatment and the introductory section ends with a relatively rapid, but nevertheless comprehensive, survey of Primate phylogeny—"From lemurs to swamp apes".

The historical framework into which Dr Coon's succeeding account of human origins is set, is simple and directly stated: the genus *Homo* developed from a bipedal higher Primate—the thesis that the genus *Australopithecus* was in this category being accepted without question and literature criticising these views scarcely finding a place in Dr Coon's bibliography. Initially man comprised the species *Homo erectus* which, while bipedal differed in a number of cranial and dental features from *Homo sapiens*. The species *Homo erectus* was from an early stage polytypic, its principal subspecies occupying the main geographical regions of the world and evolving in parallel (subject to the normal clinal interchange and population migration) to form the five principal subdivisions of *Homo sapiens* now extant.

That Dr Coon has attempted to present so vast a field in the compass of a single monograph makes his work an inevitable target of criticism, but few students of genetical morphology are likely to dispute that Dr Coon

has presented a stimulating, if not completely original hypothesis, whose critical testing may well lead to lengthy new studies of living and fossil higher Primates. Appreciation is, however, tempered by the knowledge firstly, that in spite of the seemingly extensive lists of remains provided in Dr Coon's monograph, the fossil documentation of human evolution is uneven, and at best fossil remains are usually too scarce to permit more than the broadest inferences about evolutionary sequences. Here, it can be felt that Dr Coon has attempted to draw more from the fossil record than its quality justifies. Secondly, despite the availability of electronic computing equipment, the application of the most recent biometrical techniques to the description of fossil remains has scarcely passed its infancy. In spite of the extensive numerical data presented in Dr Coon's monograph, his assessment of similarities and differences between fossil and extant types is still, to a considerable extent, subjective. Thirdly, relevant knowledge at present available from the fields of genetics and experimental morphology is so limited that in only a few cases can the evolutionary significance of morphological features of Primate fossils be determined. In Dr Coon's study, the weight that should be attached to each feature is given little critical attention.

The lay reader, however, (and Dr Coon's lucid presentation will certainly attract a considerable following of those who are anxious to obtain a ready perspective of the field of human evolution), might well fail to appreciate the uncertainties that attach to this, as to any other concept of man's evolutionary past. It is, in fact, possible that to some, Dr Coon's unequivocal assignation of the five major variants of *Homo sapiens* to individual subspecies, coupled with his thesis that they have for long evolved separately and in parallel, will give the impression that a significance, greater than is in fact warrantable, attaches to such physical differences as exist between the extant human groups.

An elimination of such fears could, however, well coincide with the publication of Dr Coon's second monograph in which he promises to present an account of variation in "The Living Races of the World".

E. H. ASHTON.

CHROMOSOME BOTANY AND THE ORIGINS OF CULTIVATED PLANTS (2nd Edition).
By C. D. Darlington, Allen and Unwin. 1963. Pp. 231. 36s.

Second editions are often something of an anticlimax not only for the reader but also for the reviewer. Most of what should or can be said has been said and one may be left with little other than the thankless task of re-viewing the reviews. But when the author is C. D. Darlington this is not likely to be true for Darlington is already a living legend. For thirty years his pen has poured forth a flood of protestations, prophesies, principles and precepts the like of which the biological world may never be fortunate enough to witness again. Unfortunately a glut of ideas, like the ability to produce them, can be almost as great an embarrassment as a dearth of them. And many now assume what L. C. Dunn once referred to as his "Facts and fancies" without acknowledgment, though give him full reference for purposes of criticism.

Darlington has always been an originator and a synthesiser, venturing boldly into unexploited territories where lesser men, lesser biologists, have feared to tread. Not unnaturally therefore, his pioneering explorations have